Case Report

Spontaneous isolated left gastric artery dissection: unusual visceral artery dissection

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Case: A 51-year-old woman visited our emergency department complaining of acute onset of upper abdominal pain and nausea. Abdominal contrast-enhanced computed tomography showed an isolated left gastric artery dissection and pseudoaneurysm. After conservative management for 6 days, endovascular embolization was carried out for treatment of the pseudoaneurysm. Spontaneous dissection of a visceral artery rarely occurs in the case of a left gastric artery.

Outcome: Contrast-enhanced computed tomography is essential to make an accurate diagnosis and establish a therapeutic strategy.

Conclusion: We should consider the occurrence of minor visceral artery dissection if a patient has acute abdominal pain without other obvious causes.

Key words: Contrast-enhanced computed tomography, left gastric artery dissection, visceral artery dissection

INTRODUCTION

ACUTE ABDOMINAL PAIN is a common chief complaint in the emergency department. Spontaneous dissection of a visceral artery without aortic dissection is uncommon, but reported cases of isolated superior mesenteric artery and celiac artery dissection have recently been increasing. We present a case of spontaneous isolated left gastric artery dissection.

CASE

A 51-YEAR-OLD woman visited our emergency department complaining of acute onset of continuous upper abdominal pain and nausea. She had no fever, diarrhea, or other symptoms. Her medical history was diabetes mellitus, and surgical history was laparotomy due to uterine cancer. On examination, blood pressure was 200/117 mmHg and heart rate was 78 b.p.m., and abdominal examination revealed abdominal tenderness without rebounding pain. Laboratory data were mostly unremarkable except for an elevated white blood cell count of 10 000/μL. Abdominal contrast-enhanced computed tomography (CT) was carried out to exclude ileus and aortic dissection. A CT scan revealed focal left gastric artery dissection (Fig. 1) and pseudoaneurysm of the distal branch (Fig. 2). There was no evidence of intraperitoneal bleeding or bowel ischemia. We recommended angiography immediately, but the patient refused. She was treated conservatively with pain management and fasting. Follow-up CT was carried out 6 days later. The left gastric artery remained irregular and the pseudoaneurysm had not changed in size. At that time, she still had abdominal pain, and we therefore performed angiography (Fig. 3) and endovascular embolization with microcoil and N-butyl-2-cyanoacrylate for treatment of the pseudoaneurysm. Her symptoms disappeared after embolization, and she was discharged without medication. Follow-up CT was carried out at 3 and 6 months. No remarkable change was detected and she has continued to do well.

DISCUSSION

THE COURSE OF the patient suggested two important clinical issues. First, spontaneous dissection of a vis-

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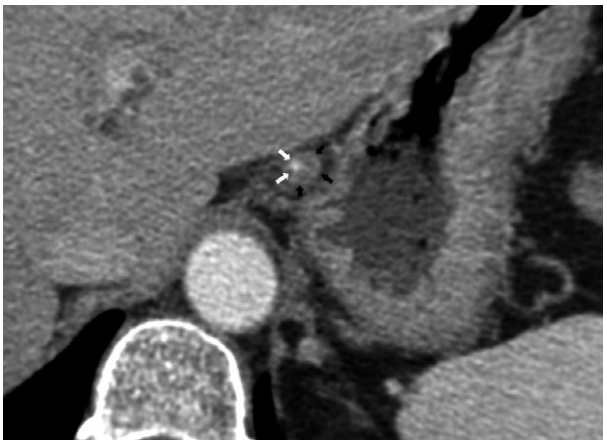

Fig. 1. 8-Multidetector computed tomography image with 5-mm slice thickness at 50 s after contrast media infusion. Contrast-enhanced computed tomography shows a narrowed true lumen of the left gastric artery (white arrow) and thrombus around the true lumen (black arrow).

Fig. 2. 8-Multidetector computed tomography image with 5-mm slice thickness at 50 s after contrast media infusion. Sagittal reformatted computed tomography shows a celiac artery (arrowhead), narrowing and dilatation of a left gastric artery (white arrows), and a pseudoaneurysm of a distal branch (black arrow).

ceral artery rarely occurs in the case of a left gastric artery. Recently, spontaneous isolated visceral artery dissection, especially superior mesenteric artery and celiac artery dissection, has been increasingly recognized because of the widespread use of CT for patients presenting with abdominal pain.[1] The majority of patients are men approximately 55 years of age presenting with acute abdominal pain.[2] Conservative management may now be the first-line therapy for patients without intraperitoneal bleeding or bowel ischemia.[3] However, the dissection is potentially life-threatening and requires urgent treatment when an arterial rupture occurs. In fact, spontaneous isolated left gastric artery dissection was reported to be diagnosed by autopsy and emergent surgery.[4–6] Minor visceral artery dissection, such as left gastric artery dissection, may be overlooked without close interpretation of CT images and may be associated with fatal outcome.

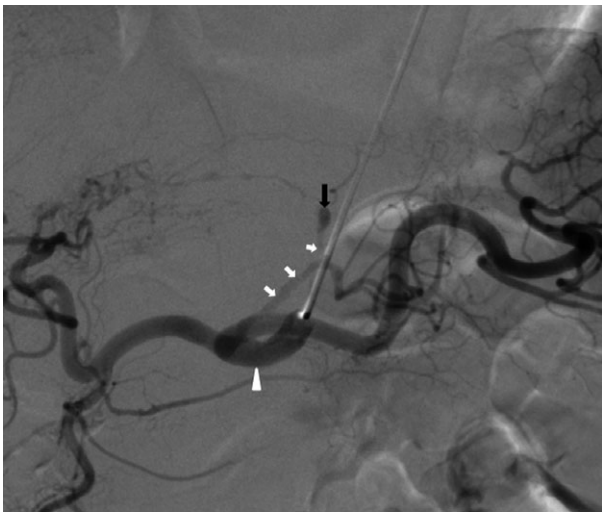

Fig. 3. Angiography shows the celiac artery (arrowhead), narrowing and dilatation of the left gastric artery (white arrows), and pseudoaneurysm of the distal branch (black arrow).

Second, contrast-enhanced CT is essential to make an accurate diagnosis and establish a therapeutic strategy. On diagnostic contrast-enhanced CT, a false lumen, thrombosis, and aneurysm in arteries are typical findings of visceral artery dissection, and non-operative management is warranted without bowel infarction or bleeding from an arterial rupture.[7] On follow-up CT, surgical or endovascular therapy is considered if the dissection and aneurysmal dilatation have become worse.[8] Our patient still had abdominal pain 6 days after diagnosis and the pseudoaneurysm was unchanged on CT. We therefore carried out endovascular embolization for treatment of the pseudoaneurysm. To our knowledge, this is the first case report of spontaneous isolated left gastric artery dissection and pseudoaneurysm diagnosed by enhanced-contrast CT.

In conclusion, spontaneous dissection of a visceral artery rarely occurs in the case of a left gastric artery, and contrast-enhanced CT is essential to make an accurate diagnosis and establish a therapeutic strategy. Further studies should be undertaken to determine whether a "hidden" minor visceral artery dissection is much more frequently present and to determine in what situation conservative or operative management should be chosen.

CONFLICT OF INTEREST

NONE.

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